IWG-3/WRC-07/Proposal/Doc.1r4
October 28, 2004

UNITED STATES

PRELIMINARY VIEWS ON WRC-07

WRC-07 Agenda Item 1.9: to review the technical, operational and regulatory provisions applicable to the use of the band 2 500-2 690 MHz by space services in order to facilitate sharing with current and future terrestrial services without placing undue constraint on the services to which the band is allocated;

ISSUE: Matters related to the use of the bands 2500 - 2690 MHz by terrestrial and space services.

BACKGROUND: The band 2500-2690 MHz is allocated for sharing by both terrestrial and satellite services. The terrestrial services include the Mobile and the Fixed Services (including IMT-2000). Both Services have been rapidly evolving to encompass high speed mobile internet access requiring sensitive receiving equipment some of which are highly susceptible to interference.

The 2500-2690 MHz band is also allocated to the satellite services which include MSS, BSS (including GSO and non-GSO), and FSS. At WRC-03, the issue of sharing between terrestrial services and NGSO BSS(Sound) in certain Region 3 countries was resolved with the revision of pfd limits for NGSO BSS(Sound) per Resolution 539. GSO BSS(Sound) limits within these countries were also tightened for systems for which complete Appendix **4** coordination information has been received after 1 June 2005. Other than for these Region 3 countries, the BSS limits remained the same as given in Table 21-4 of the Radio Regulations. WRC-03 recognized the difficulty of sharing between the terrestrial and satellite services and caused the ITU-R to form Joint Task Group 6-8-9 to study the issues related to sharing.

In general, co-frequency sharing between the mobile-satellite service (MSS) and terrestrial services has been found to be difficult in the ITU-R studies. The sharing between the terrestrial services and the MSS poses risks of harmful interference to both systems. In addition, it will require large separation distance between terrestrial stations and MSS earth stations in order to avoid harmful interference to both stations. Recommendation M.2041 studied the feasibility of sharing between MSS and MS for IMT-2000 and highlighted the incompatibility between these two services on a co-frequency basis.

Both BSS and FSS are also allocated to the 2500-2690 MHz band and are subject to the limits in Table 21-4. Within Region 2 any satellite service launched may overlap many other Region 2 countries and have the effect of interfering with existing and planned terrestrial services within that band.

Administrations in Region 2 are planning for implementation of terrestrial services in the 2500-2690 MHz band (See WP-8F questionnaire to administrations and summary in attached Annex). In the United States there are no allocations to space services in this band.

UNITED STATES VIEW:

1. The United States supports the ongoing studies on sharing between satellite and terrestrial services in the 2500 – 2690 MHz band being conducted in JTG 6-8-9 with the view that adequate protection from satellite interference must be secured for its existing and future terrestrial systems.
2. Recognizing that implementations of satellite services by any Region 2 country will affect terrestrial services within other Region 2 countries and that administrations in Region 2 plan to implement terrestrial services in the band 2500 - 2690 MHz, the United States is of the view that allocations to satellite services in the band 2500 - 2690 MHz in Region 2 may prove disruptive to terrestrial deployments.
3. The United States is of the view that studies should focus on the effects of interference on terrestrial systems by space services.
4. Since administrations in Region 2 have no plans to implement MSS systems in the band 2500 – 2690 MHz, the United States is of the view that primary allocations to MSS in the band 2500 – 2690 MHz in Region 2 are no longer required.
5. The United States supports NOC to RR Footnotes 5.417A and 5.418 as adopted by WRC-03 relating to non-GSO and GSO BSS (sound) systems in the band 2605-2655 MHz.

Annex 1

Summary of responses to the questionnaire

How is the band 2 500-2 690 MHz presently allocated and used in your country?

UAE Doc. 8F/184	It is allocated and extensively used by fixed and mobile services.
Brazil Doc. 8F/177	a) 2 500-2 520: Fixed (RR 5.409 and 5.411 apply), mobile and mobile satellite - Earth to space (RR 5.403 and 5.351A apply)[1]; b) 2 520-2 655: Fixed (RR 5.409 and 5.411 apply) and mobile[2]; c) 2 655-2 670: Fixed (RR 5.409 and 5.411 apply) and mobile[3]; d) 2 670-2 690: Fixed (RR 5.409 and 5.411 apply), mobile and mobile satellite – space to Earth (Note 5.351A applies)[4]. However, the band is primarily used for the multipoint multichannel distribution service, a modality of pay-TV service, which is a fixed service[5]. On a secondary basis, the band is used for TV broadcasting relay systems and electronic news gathering.
Mexico Doc. 8F/167	The 2 500-2 690 MHz band is currently attributed and licensed for MMDS and MDS (restricted TV and wireless Internet access) services.
Cameroon Doc. 8F/160	The band 2 500-2 690 MHz is currently heavily used for the fixed service by short range microwave links for inter-switch connections in the main cities (Douala, Yaoundé).
Japan Doc. 8F/136	The band 2 500-2 535 MHz and 2 655-2 690 MHz is used for MSS, downlink and uplink respectively. The band 2 605-2 655 MHz is planned to be used for BSS.
Korea Doc. 8F/133	Wireless CATV is allocated in this band and satellite DMB services are also allocated in parts of the band of Wireless CATV as results of prior WRCs. According to obligation of the wireless CATV, the bands allocated to satellite DMB services should be available whenever the services begin to be deployed. Several parts of the band 2 500-2 690 MHz are now utilized for supporting broadcasting services on a license basis.
USA Doc. 8F/122	In the United States, the 2 500-2 690 MHz band is allocated to the fixed and mobile (except aeronautical mobile) services on a primary basis. In addition, the 2 655-2 690 MHz band is allocated to the earth exploration-satellite (passive), radio astronomy, and space research (passive) services, all on a secondary basis. All other allocations to satellite services have been removed from the U.S. allocations table for this band.

[1] RR 5.407 and 5.414 apply for the entire band.

[2] RR 5.339 and 5.403 apply for the entire band.

[3] RR 5.149 and 5.420 apply for the entire band.

[4] RR 5.149, 5.419 and 5.420 apply for the entire band.

[5] Note should be give to the fact that this situation is shared by many countries in the Region 2.

	The band is presently being used by operators providing four kinds of basic service offerings: (1) downstream analog video; (2) downstream digital video; (3) downstream digital data; and (4) downstream/ upstream digital data. Operators have deployed or sought to deploy three alternative kinds of system configurations: high powered video stations, high power fixed two-way systems and low power, cellularized two-way systems.

Canada Doc. 8F/118	In Canada, the entire band 2 500-2 690 MHz has primary allocations to the fixed and mobile services and in addition, an allocation to the broadcasting service in the upper portion of the band (2 596-2 686 MHz). The lower portion of the band (2 500-2 596 MHz) is used for multipoint communications systems (MCS) to advance local distribution of telecommunications services. The upper portion (2 596-2 686 MHz) is used for multipoint distribution system (MDS) to support local broadcasting distribution undertakings. There are currently no operators authorized in the mobile service.
China Doc. 8F/115	The band 2 535-2 599 MHz has been used for MMDS system.
CEPT Doc. 8F/110	The band 2 500-2 690 MHz is currently allocated in CEPT to the fixed and mobile services for a variety of applications such as ENG/OB (programme-making), Wireless Local Loop, Point to Point Systems, etc.
Sultanate of Oman	Part of the band is allocated so far to fixed and broadcasting satellite.
State of Qatar	The band 2 500-2 690 MHz is allocated to fixed services.

Does your Administration have any future plans to change the allocations and future use of the band 2 500-2 690 MHz? If so, in what time frame?

UAE Doc. 8F/184	No plans.
Brazil Doc. 8F/177	The Brazilian Administration has, so far, no plan for introducing IMT-2000 on this band. However, once the long term prospects for the MMDS and the further regulation for the use of this band is established by ITU (i.e. FDD and TDD distribution on the band), Brazil understands that worldwide this band has potential for supporting the rapid development of IMT-2000 and beyond, making easier to obtain the scale needed for it.
Mexico Doc. 8F/167	Mexico has not defined the time frame when the attribution of this band could be changed. It will depend on the market conditions as well as the introduction of new services and technologies. As of today, Mexico considers that the planned IMT-2000 capacity in other identified bands is enough in the long term.
Cameroon Doc 8F/160	No modification of the attributions in this band is envisaged for the moment.
Japan Doc. 8F/136	Japan has no plan to change the “Frequency Assignment Plan”. It has already been assigned to the mobile service.
Korea Doc. 8F/133	No. There is no announcement of Administration to change the allocation of the band 2 500-2 690 MHz up to now.
USA Doc. 8F/122	There are no plans to make any further allocation changes to the 2 500-2 690 MHz band in the U.S. at this time. In early 2003, the U.S. Federal Communications Commission (FCC) instituted a rulemaking proceeding for this band by issuing a Notice of Proposed Rulemaking to “facilitate the provision of fixed and mobile broadband access, educational and other advanced services” in this band. It is expected that an Order(s) will be released sometime during the first half of 2004, which will contain sharing criteria

	and modified rules for use of this band, along with a revised frequency arrangement.

Canada Doc. 8F/118	The entire band 2 500-2 690 MHz is allocated to both the fixed and mobile service with an additional allocation to broadcasting in the upper portion as specified in response to question 1. There are no allocation changes being considered. Current users of the band are authorized to provide fixed and broadcasting services. Canada has announced that it will conduct a public consultation in the 2004 time frame to address licensing issues in the band including the use of mobile.
China Doc. 8F/115	Currently no plan to change the allocation.
CEPT Doc. 8F/110	In most CEPT countries existing systems will be phased out so that the spectrum will be available for UMTS/IMT-2000 by 1 January 2008.
Sultanate of Oman	There are no plans but dependent on market demand.
State of Qatar	No future plan to change the allocation. The band 2 400-2 700 MHz has already assigned to MMDS. MMDS system: Stands for multipoint multi-channel distribution system or microwave multi-channel distribution system.